



# Fact Sheet

## Ballistic Missile Defense Flight Test Record (as of December 12, 2008)

The Missile Defense Agency conducts regular flight tests to verify performance and confirm the technological progress of the Ballistic Missile Defense System. Testing to date has given us confidence in the basic design, effectiveness, and operational capability for short, medium and long-range ballistic missile defense.

Most Ballistic Missile Defense programs utilize "Hit-to-Kill" intercept technology, where missile threats are destroyed through sheer force of direct body-to-body impact--the interceptor collides directly with the target missile or warhead, and carries no explosive. These programs include the Aegis Ballistic Missile Defense system using the Standard Missile -3 (SM-3) interceptor deployed on a number of U.S. Navy cruisers and destroyers; Ground-based Midcourse Defense (GMD) using the Ground-Based Interceptor (GBI) for long-range missile defense, such as defending the United States against a limited long-range attack; Terminal High Altitude Area Defense (THAAD) for defending areas within a regional theater of operations, and the Patriot Advanced Capability-3 interceptor system for defending smaller areas, such as military installations and small cities.

### Overall Test Record:

- Across all programs, 37 of 47 "Hit-to-Kill" intercept attempts have been successful since 2001
- 13 of 15 "Hit-to-Kill" intercepts have been successful since 2007

### Aegis Ballistic Missile Defense: 16 of 20 intercept attempts, 4 failures since tests began in 2002

- Includes two Standard Missile-2 (SM-2) blast fragmentation, non hit-to-kill intercepts which uses a proximity-fuzed explosive to destroy target
- Failures:  
 FM-5 interceptor divert control malfunction;  
 FTM-11 fire-control malfunction (operator error)  
 Pacific Blitz exercise failure (one intercepted target, one miss; all interceptors were older version Block I missiles that had exceeded their service life)  
 JFTM-2 interceptor flew normally until last few seconds. Cause not yet determined

### Ground-based Midcourse Defense: 8 of 13 intercept attempts, 1 "no-test" since tests began in 1999

- Failures:  
 IFT-4 kill vehicle infrared sensor cooling malfunction (only malfunction thus far in final "endgame" period before intercept);  
 IFT-5 failure of kill vehicle and booster to separate;  
 IFT-10 failure of kill vehicle and booster to separate;  
 IFT-13c interceptor failed to launch due to software configuration;  
 IFT-14 interceptor failed to launch after silo support arm did not retract, triggering an automatic abort
- No-test: FTG-03 target malfunction (target missile failure after launch, interceptor not launched)

### Terminal High Altitude Area Defense: 5 of 5 intercept attempts, 1 "no-test"

- Current test program began in 2006
- No-test: FTT-04 target malfunctioned after launch

Sea-based Aegis BMD (SM-3 Interceptor)		
Date	Test Name	Intercept
25-Jan-02	FM-2	✓
13-Jun-02	FM-3	✓
21-Nov-02	FM-4	✓
18-Jun-03	FM-5	✗
11-Dec-03	FM-6	✓
24-Feb-05	FTM-04-1 (FM-7)	✓
17-Nov-05	FTM-04-2 (FM-8)	✓
22-Jun-06	FTM-10	✓
7-Dec-06	FTM-11	✗
26-Apr-07	FTM-11 Event 4	✓
22-Jun-07	FTM-12	✓
31-Aug-07	FTM-11a	✓
6-Nov-07	FTM-13*	✓✓
17-Dec-07	JFTM-1	✓
1-Nov-08	Pacific Blitz	✓ ✗
19-Nov-08	JFTM-2	✗
Aegis BMD (SM-2 Block IV Interceptor)		
24-May-06	Pacific Phoenix**	✓
5-Jun-08	FTM-14**	✓

Ground-based Midcourse Defense		
Date	Test Name	Intercept
2-Oct-99	IFT-3	✓
18-Jan-00	IFT-4	✗
8-Jul-00	IFT-5	✗
14-Jul-01	IFT-6	✓
3-Dec-01	IFT-7	✓
15-Mar-02	IFT-8	✓
14-Oct-02	IFT-9	✓
11-Dec-02	IFT-10	✗
15-Dec-04	IFT-13c	✗
14-Feb-05	IFT-14	✗
1-Sep-06	FTG-02	✓
25-May-07	FTG-03	No-test
28-Sep-07	FTG-03a	✓
5-Dec-08	FTG-05	✓

Date	Test Name	Intercept
12-Jul-06	FTT-03	✓
13-Sep-06	FTT-04	No-test
27-Jan-07	FTT-06	✓
5-Apr-07	FTT-07	✓
27-Oct-07	FTT-08	✓

\*Dual Intercept

\*\*Blast Fragmentation Intercept